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# Stepping Inside the Story

Writing Interactive Narratives for Virtual Reality

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<p>This thesis examines interactive storytelling for virtual reality (VR) experiences. Its goal is to find guidelines for writing interactive VR narratives. The study is executed with a qualitative method, using both source material such as literature and public speeches and structured and semi-structured interviews with professionals working with VR experiences.</p> <p>The thesis looks into basic narrative elements such as structure, world and characters in the context of interactive VR experiences. It also examines some narrative tools that are characteristic to interactive media, such as space, movement and agency of the audience.</p> <p>The study suggests, that in order to create rewarding interactive VR narratives for the audience, the storyteller needs to carefully consider the audience's role in the experience and their relationship with the protagonist.</p> <p>The thesis indicates that in interactive VR experiences, the virtual world is an essential tool for the storyteller, because the storyteller communicates the story elements to the audience through the environment. Furthermore, when given agency to interact with the virtual world, the audience can more easily feel immersed in the experience and motivated to take part in constructing a meaningful narrative for themselves.</p>	
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<p>Tässä opinnäytetyössä tutkitaan tarinankerrontaa erityisesti interaktiivisissa virtuaaliodellisuuskokemuksissa. Työn tarkoituksena on löytää ohjeita ja suuntaviivoja interaktiivisten, tarinallisten virtuaaliodellisuuskokemusten käsikirjoittamiseen.</p> <p>Tutkimus on toteutettu käyttäen laadullisia menetelmiä. Tutkimusaineisto koostuu kirjallisuudesta, julkisista puheenvuoroista sekä ennen kaikkea alalla työskentelevien ammattilaisten haastatteluista.</p> <p>Opinnäytetyö tarkastelee tarinankerronnan peruselementtejä kuten rakennetta, hahmoja ja maailmaa virtuaaliodellisuuden näkökulmasta. Lisäksi se tutkii muutamia erityisesti interaktiiviselle medialle ominaisia piirteitä, kuten tilaa, liikettä ja kokijan mahdollisuutta vuorovaikuttaa teoksen kanssa.</p> <p>Tutkimus ehdottaa, että voidakseen luoda kokijalle palkitsevia interaktiivisia virtuaaliodellisuusnarratiiveja, tarinankertojan on harkittava huolellisesti kokijan roolia teoksessa ja erityisesti tämän suhdetta teoksen kokijahenkilöön.</p> <p>Tutkimus myös osoittaa, että interaktiivisissa VR-kokemuksissa virtuaalimaailma on tarinankertojan keskeinen työkalu, sillä sen kautta tarinankertoja kommunikoi tarinan elementtejä kokijalle. Lisäksi kokijan mahdollisuus vuorovaikuttaa virtuaaliympäristön kanssa ja toimijuus tarinan maailmassa helpottaa eläytymistä ja motivoi kokijaa rakentamaan itselleen merkityksellisiä narratiiveja.</p>	
Avainsanat	virtuaaliodellisuus, VR, interaktiivinen tarinankerronta

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## 1 Introduction

As a child I was enchanted by the BBC's *The Chronicles of Narnia* TV -series. The moment when Lucy stepped inside a wardrobe and entered another, magical realm, captivated me for years to come. I sat inside my grandparents' wardrobe imagining – and secretly hoping – that a portal to Narnia would actually open for me to step in and see those enchanted places and meet the magical creatures and characters I loved.

Since then I have been fascinated by stories that transport their characters into another realm: Lewis Carroll's *Alice in Wonderland*, Jim Henson's *Labyrinth*, many works by Neil Gaiman and Clive Barker, and the horror game series *Silent Hill*, to name just a few. I have searched for that feeling from theatre, role-playing games and video games, but when I first had the chance to try a virtual reality (VR) headset I felt like I had finally really stepped inside a fictional world.

That is what I love about VR: it allows us to experience the worlds of stories ourselves. Just by putting on a headset in their own living room the audience can suddenly stand on a mountain top, an alley in a futuristic town or in the middle of a black and white film noir scene.

VR in its current form is a computer-generated environment, which the viewer/player "enters" by wearing a headset or using another kind of device. It creates an illusion of actually standing inside said environment, as the user is able to look around just by turning their head. It often also includes other kinds of sensory feedback and interaction, such as being able to hold, move and use objects via handheld controller devices. VR is distinct from 360° video, which is actual video shot with an omnidirectional camera or multiple cameras. In addition to headsets, 360° video can be viewed on a screen, but like VR, it gives the viewer the control over the viewing direction.

VR is still a new medium, and one that is beginning to find its forms and possibilities. As a platform, VR bends to the needs of work and play, namely marketing, research and entertainment. The latter includes both films and games, but guidelines and conventions for storytelling and screenwriting in this medium are yet to be established.

This makes VR fascinating and challenging: a still largely unmapped territory of storytelling, which promises adventures, discoveries and treasures but also missteps.

Pioneers of the field have already ventured into the world of VR storytelling. They have tried, succeeded, and maybe failed on occasion, but first and foremost they have learned and discovered methods of storytelling that work in this medium. That is why I have interviewed the following designers and writers working with VR for this thesis, and I use these interviews as my main resource for information:

**Gregory Loudon**, lead designer from VR game company **3rd Eye Studios**. The studio has released two episodes of its VR game series, ***Downward Spiral*** in 2017 and 2018. Loudon has previously worked in both the film and game industries, e.g. as the senior narrative designer at one of Finland's largest game studios, Remedy Entertainment. In addition to his interview, I have also used his speech at the ***VR NOW Con & Awards*** event in 2017 as a resource.

Producer and creative director, **Sami Porkka**, CEO and 3D artist, **Henri Taussi**, and programmer, **Teemu Viisanen**, from game studio **Barracuda Disaster**, which makes games for console, PC and VR. They released their first narrative VR game, ***End of the Road***, in 2017.

Game designer, **Tero Alasmaa**, from VR studio **Morrow Games**. In addition to games, Morrow Games creates VR experiences and artwork.

Game designer, **Jaakko Kempainen**, who worked as a lead game designer for the sci-fi thriller game ***P.O.L.L.E.N*** with VR game studio **Mindfield Games**, and now works at VR game studio **HipFire Games**.

Creative director, **Noora Heiskanen**, from VR studio **Teatime Research**, which creates a variety of immersive VR experiences, applications and services. Heiskanen has also previously worked in the mobile game industry as an artist and lead designer.

In addition to my own interviews, I have used the interviews in **John Bucher's** book ***Storytelling for Virtual Reality: Methods and Principles for Crafting Immersive Narratives***. Bucher is a writer, narrative consultant and mythologist, who in his book

also interviews professionals working in the field and analyses their answers in order to find out the current principles of VR narrative.

Many of my interviewees used the word “player” when discussing the experienter of a VR environment. Even though I find the word useful when discussing interactive VR, some of my interviewees also talked about VR experiences that were not games, and many of the same insights were shared among interviewees working with different kinds of VR experiences. Because of that, I have alternated between the terms *viewer*, *player* and *audience* to describe the experienter of VR storytelling, trying to choose the best in each context. However, I wish readers to keep in mind that in most cases, any of these audience roles could apply to the experience discussed.

In addition to the pioneering work carried out in the field today, video games, live action role play and participatory theatre can also help guide the exploration of VR storytelling. In this thesis I examine VR in relation to these mediums on the one hand and on the other to cinematic storytelling. Even though I touch on the subject of VR movies, my main focus is on interactive storytelling, as I feel interactivity is an essential part of VR. As discussed later in this thesis, in some sense VR is always interactive, but I feel that giving the viewer or player the possibility of taking part in creating the story – to actually exist in the world of the story through agency – is one of the greatest opportunities of storytelling in virtual reality. I am writing this thesis in the hopes of finding some of those opportunities and sharing them with others.

My perspective on storytelling in VR is that of a video gamer, larper (live action role player) and screenwriting student. I find VR fascinating not only because it shares so many similarities with other forms of storytelling I enjoy, but also because it is so very different from any experience I have had in other mediums. I use my own acquired knowledge and experience about video games, live action role play (LARP), participatory theatre and screenwriting as a background on which to examine and reflect the features of VR storytelling. Thus, many of the ideas presented in this thesis are based on my own experience and are therefore open for discussion.

Throughout this thesis I have most often used the term ‘storyteller’ to describe anyone working with telling stories. My interviewees have many different roles and titles in their organisations, and often work closely with other specialists. Likewise, when discussing

other media in relation to VR, terms like screenwriter or director seem unnecessarily narrow.

The goal of this thesis is to present an overview of the characteristics of interactive VR storytelling and to work as a sort of a concise beginner's guide to the subject for myself and others who might be interested. Following the ideas discussed in the interviews, I address some of the basic elements of storytelling – e.g. characters, world, structure – in VR, but also discuss space, movement and interactivity, which are all fundamental to VR storytelling. Thus, involving the audience in creating the story in VR becomes the main subject of my study.

## 2 History of the future: The past and present of VR

The idea of virtual or artificial reality has sparked imagination at least since the 1930's, when an American science fiction writer, Stanley G. Weinbaum, published his short story *Pygmalion's Spectacles*, which John Bucher and many online sources list as one of the earliest depictions of VR as we know it (Bucher, 2018, 3–4). In the story, the main character encounters an elven professor, who has created spectacles that he describes as follows:

But listen – a movie that gives one sight and sound. Suppose now I add taste, smell, even touch, if your interest is taken by the story. Suppose I make it so that you are in the story, you speak to the shadows, and the shadows reply, and instead of being on a screen, the story is all about you, and you are in it. (Weinbaum, 1935)

In 1938, a French poet and playwright, Antonin Artraud, published a collection of essays, where he used the term *la réalité virtuelle* (virtual reality) to describe the stage, props and characters of a play. The term was popularised in 1987 by Jason Lanier, the founder of one of the first VR companies, VLP Research. (Bucher, 2018, 4.)

As far as the technological evolution of VR goes, Bucher mentions stereoscopic viewers of the early 1800s as a first step in creating a three-dimensional experience. These later evolved into the View-Master -stereoscopes, introduced in 1939 and still sold today (Bucher, 2018, 4). In the 1960s, computer scientist and professor, Ivan Sutherland, and his student Bob Sproull from the University of Utah, created the first



head-mounted display (HMD), the Sword of Damocles: a primitive and heavy device lowered on the user's head from the ceiling. (Simpublica Magazine, 3/2014.)

VR technology continued to interest science fiction writers and scientists alike, and the technology was developed in the 1970s, 1980s and 1990s by MIT, Atari, Sega, Nintendo, Apple and others. Even video game arcades offered some VR experiences to the public. Many of the experiences and products developed then were short lived, however, often because of technical problems that caused motion sickness and nausea for the user. (Bucher, 2018, 4.)

The fast technological progress of this new millennium has advanced VR development as well. In the early years of the 2000s, the focus was on technology rather than storytelling, but when a prototype for a VR headset was introduced by Oculus in 2012, there started to be demand for VR stories as well. In 2014, Google Cardboard offered average consumers an inexpensive way to experience something similar to VR. In the same year Oculus VR was purchased by Facebook, which is considered a great step towards getting the technology to the consumer market. (Bucher, 2018, 5.)

Finally, in 2016, three major headsets were released: Oculus Rift, HTC Vive and PlayStation VR. They are still expensive and somewhat complicated to install and use with motion sensors and wires that attach the headset to the computer, but new versions are constantly being developed. The technology is taking leaps forward and becoming more affordable for a growing audience. This could finally be the time when VR breaks through as a mass medium and takes its place as a storytelling platform next to film, television and video games. Even though much of the content created for VR today is focused on action instead of storytelling, the variety available is expanding all the time. This is a wonderful time for storytellers to think about how we could contribute to the development of VR industry and how can we best utilise this new platform for the benefit of storytelling. In the next chapters I will try to find answers to these questions.

### **3 Shifting perspective: Designing stories to fit VR**

The evolution of cinematography has taught film and television storytellers proficiency in using the tools they have at hand. We know how to use the screen, the lens, close

ups and long shots, continuity editing and other tools to our advantage. In film and television, we are in control of what the viewer sees, and we can use that control to manipulate how they interpret our artwork. There are structures we can use, concepts and ideas that have been tested and are known to work in most cases, and we can use these to tell a variety of stories. However, these structures might not work as well in VR, as instead of letting the viewer see the story through a window, it opens a door for them to walk into it. VR is a whole new media, so we can assume it has its own structures and stories that are intrinsic to it. Therefore one of my first questions to my interviewees was on what kind of stories they see VR as best suited for.

As creative director Noora Heiskanen from VR studio Teatime Research points out, there is no sense in trying to use VR for something other forms of media do better. Every medium has its own language, its own way of telling stories, conveying moods and sparking emotions. (Heiskanen, interview, 2018.)

Storytellers working with VR need to find which stories work best for their medium, and what is the best way of telling those stories in it. In his book *Storytelling for Virtual Reality*, John Bucher interviews the principal filmmaker for VR at Google, Jessica Brillhart, who says that it is fruitless to expect or force the viewer to come out of a VR experience with quite the same story the storyteller has planned:

. . . the likelihood that someone is going to come out of that experience with exactly that story is very unlikely, unless I literally force them to look in a direction the whole time. In which case, I should just make a film and be done with VR. (Brillhart, as cited in Bucher, 2018, 13)

So to fully utilise the possibilities of VR, a storyteller somehow should take the viewer's personal experience of the story into account. When discussing the stories that best fit VR, the core idea that came up most often in my own interviews for this thesis was the personal nature of VR. By examining this idea we may find some clues on how to better tailor stories to fit VR.

When the viewer puts the headset on, they are not watching someone else's story through someone else's narrative structure. Instead, they are putting together their own account of the events – creating their own story. Many of my interviewees emphasised the personal nature of VR as something that the storyteller should take into account when designing stories for VR experiences. As discussed in the later chapter about characters, the viewer should be able to fill out the avatar (their character or

representation in the virtual world, be it corporeal or disembodied) with their own thoughts, ideas and movements. In VR the viewer cannot be forced to change into someone else completely, so the story needs to be able to accommodate their personal qualities in some way, even if it offers some kind of a character frame for them to step in.

Heiskanen describes this phenomenon as a process where the viewer interprets the world and the story based on their own set of memories, experiences and values. She says a VR storyteller needs to be mindful of how a lot of information from the surrounding world is conveyed even before conscious observation takes place. As people always interpret the surrounding world based on their expectations, Heiskanen suggests that a medium which tells stories through the world surrounding the viewer is a great match with stories where those expectations are broken and played with. (Heiskanen, interview, 2018.)

In VR, the storyteller does not have as much control over what the viewer notices or focuses on, as, for example, in film, so the viewer has more freedom to make their personal interpretations about the world and the story both consciously and subconsciously. In a way, the viewer takes control of the story, even when they cannot interact with the world.

The impact a VR story has on its experiencer is personal in nature, especially when the viewer-character is the protagonist or otherwise an active character in the story. The choices the viewer is given, the actions they can perform, the fact that what happens in the VR world is either happening to them directly or to someone in the same scene they are in – according to many of the interviewees, all of these features make VR feel more personal than other media. For example, as game designer Jaakko Kemppainen from HipFire Games says, VR is great for telling horror stories, but possibly even a little too great, as it intensifies feelings by making them personal. (Kemppainen, interview, 2018.)

In VR the world of the story surrounds the viewer, and in participatory experiences the viewer can explore the world and interact with it. So, in addition to the personal nature of VR, the storyteller needs to take into account the interactivity of the medium.

## 4 Looking for clues: Interactivity in VR and other media

In a sense, VR is always interactive, as the viewer can at least choose to look at something or look away, and discover their own story with those choices. So how should we look at storytelling in an interactive environment? In *Storytelling for Virtual Reality*, VR filmmaker Jessica Brillhart describes the audience's engagement in VR as a dialogue or a dance, where both the world and the viewer have a say in the story. When the player is dropped into the VR space, they have the agency to do what they want. She says the storyteller's job is to think about how to craft that VR world to interact with the audience in the best possible way. (Brillhart, as cited in Bucher, 2018, 8–9.)

In his speech at *VR NOW Con & Awards in 2017*, Gregory Loudon, lead designer of VR game company 3rd Eye Studios, also emphasised the storyteller's role in VR as someone who is not really telling the story at all, but rather creating possibilities for a story and letting the player discover it for themselves. Instead of the narrative advice often used for literature and traditional screenwriting: "show, don't tell", Loudon encourages storytellers to keep in mind a piece of video game wisdom: "play, don't show". He says that in an interactive medium, it is best to let the story emerge as much as possible from the player's interaction with the world. (Louden, VR Now Con & Awards, Berlin, 2017.)

As the field is so new, storytellers must forge the conventions of this new medium themselves and find out what works for VR. However, I think there is a lot we can learn from older mediums that share similarities with VR, not only in terms of interactivity but in some cases in terms of story creation, presence and personal perspective as well. In the next sections of this chapter I look at how some of these other mediums use interactivity and how we may use those ideas to our advantage when telling VR stories. I also discuss some specific storytellers' tools and limitations in interactive VR experiences.

### 4.1 Non-digital media

Even though modern VR relies on technological progress, there are non-digital mediums that resemble it in some aspects, and that we can learn from in terms of building narratives for VR. Immersive theatre, escape rooms and LARP all create a

world around the participant, and give them agency to move around and interact within it. The participant is not only present in the story, but their presence affects the story, often even creating it. The same is true for tabletop role-playing games (RPGs), where the environment is built only in the imaginations of participants, but where the players can interact with the collectively imagined world describing the actions of their characters to each other and the storyteller.

When trying to implement a story into any of these mediums, the writer must enable the story for the participant, and then let them make their own decisions about how to use their agency to experience it. The storyteller can guide the participant through the experience by giving them goals, tasks, instructions and clues either before the story or during it, but they must rely on the participant to take an active role in creating the story.

John Bucher highlights immersive and participatory theatre as one of the most helpful fields in understanding storytelling principles in VR (Bucher, 2018, 80-81). Even though the performances vary from simply letting the audience vote for the outcome of a play to giving the audience a role so that they become performers themselves, the element of interactivity is essential to the art form. One of the most fascinating forms of participatory theatre in relation to VR is the performance where the audience can explore a building or a set and create their own experience by choice and chance. A good example of this is the productions of the British theatre company Punchdrunk, but regular horror house experiences at Halloween fit this category as well.

Escape rooms give their players a setting, a set of puzzles to solve and usually the goal of escaping before the time runs out. Often the room or space hides clues that players can find to put together a story. CEO and 3D artist, Henri Taussi, from Barracuda Disaster says that when it comes to storytelling, VR is a medium where the viewer can gather pieces of a story by making observations and discoveries in the world, and can put those pieces together the way they like. (Taussi, interview, 2018.) This is similar to John Bucher's view on the matter:

Storytelling in virtual reality is less about *telling* the viewer a story and more about letting the viewer *discover* the story. (Bucher, 2018, 7)

LARP also contains many of the same similarities to VR as the mediums mentioned above, but drawing methods and influences from it might prove more difficult, as LARP

is by nature a very social medium. Larpers usually take on characters in a world created by the organisers and interact with each other within the framework provided. Each player creates their own character's story during the LARP, most often through that interaction. As discussed later in the chapter about characters, there are still questions to be solved about supporting characters in the player/viewer's story in VR. Before we find solutions to those questions, this kind of social interaction will most likely require multiplayer support from a VR experience that wishes to utilise storytelling methods from LARP.

In my interviews, both game designer Tero Alasmaa from Morrow Games and game designer Jaakko Kemppainen from HipFire Games told me they had used their experience from storytelling in RPG when designing characters and interaction for VR experiences. Kemppainen said that his experience from LARP and RPG had helped him get into the characters he designs and make them feel real, while Alasmaa considered being a storyteller in RPGs had taught him not to force players into choices and interaction, but to make the interactive choices tempting for the player. (Kemppainen, interview, 2018 & Alasmaa, interview, 2018.)

#### 4.2 Traditional video games

While non-digital mediums can build a fictional world to surround the audience unlike any digital medium before VR, different kinds of similarities can be found between VR experiences and traditional video games (traditional as opposed to VR -games). In particular, games where the player can explore a 3D world resemble interactive VR experiences, as they give their player an avatar in a 360° world, agency and interaction, and in many cases a nonlinear story to put together from pieces found in the world, or just pieces for different possible stories for the player to create. Therefore I believe a lot can be learned from traditional video games, as can be seen from many of my interviewees' backgrounds in the gaming industry.

Louden says, that the world in VR is indeed similar to traditional 3D games, where the player can usually see the whole environment, unlike in film and TV (Louden, interview, 2018). In these games the player can turn the camera and/or their avatar to look around in the world of the game, so they control the point of view and the viewing direction. However, as the exploration occurs through the frame of a screen, the player is still distanced from the world and is viewing it only through a small window instead of

an experience of actually being inside the story. This also creates distance between the player and their avatar, as it is impossible for the player to actually embody their character inside the game world. Some games do their best to obscure this line by offering their player a first person view through the eyes of the playable character.

When a player sees the game through a screen, the control over the viewpoint can also be taken away from the player. This gives more traditional games the possibility of using techniques from film and TV to forward the story in cutscenes, where the player cannot interact with the game or look away from the events the storyteller wishes to show them. This has been an effective method of storytelling in video games, but it is difficult to use it in VR without it breaking the player's immersion and making the experience feel wrong or in some cases even nauseating.

During their interview, Henri Taussi, along with producer and creative director Sami Porkka and programmer Teemu Viisanen from Barracuda Disaster, had an interesting discussion about the possibilities of using somewhat similar cutscenes in VR. They suggested that as the player cannot be deprived of the freedom to look where they want, they could still be transported into a flashback or a scene with a different feel to it, where they might or might not have the possibility to interact with the scene, but would maybe learn something important about the story (Porkka, Taussi & Viisanen, interview, 2018).

Techniques for editing and cutting are evolving in VR, so these kinds of methods for storytelling might well soon become a seamless part of VR experiences. However, while these kinds of techniques work in film and traditional games as we are used to seeing them on screen, they might still break the immersion in VR, because VR – as its name suggests – imitates reality, and we are not used to cuts and hallucinatory flashbacks in real life. It will be interesting to see, whether storytelling in VR games starts to resemble that of other video games, or whether it will diverge from it even further, when storytellers and VR designers explore and test these possibilities and as audiences get more used to VR and the means through which it tells stories.

#### 4.3 Guiding the viewer's attention in virtual space

As stated earlier, when the audience has a choice over where to look in VR, it is clear that the storyteller cannot *force* their attention to any specific event at a specific time.

The viewer/player might accidentally miss or even choose to ignore a scene that the storyteller might consider crucial to the story. So if we were to try adding pre-written scenes, or other content we would not like the player to miss, into our VR experience, how could we guide our viewer/player so gently that they still have the agency over the story?

All the interviewed storytellers had found their ways around these questions. Porkka and Viisanen had taken advantage of the fact that the player usually looks in the direction they are moving. By designing the world to contain doors and passageways that momentarily direct the player's attention, they could trigger events to happen when the player walks through such a point, looking in the desired direction (Porkka & Viisanen, interview, 2018).

Many of my interviewees emphasised the meaning of light and/or spatial sound in guiding the player's attention. Alasmaa said, that well lit objects attract the player toward them (Alasmaa, interview, 2018). Kemppainen also added, that in addition to light and darkness, other contrasts, like messy/tidy or still/moving work well, too (Kemppainen, interview, 2018). In his speech at *VR NOW Con & Awards*, Louden also underlined the importance of placing items, points of interest and destinations somewhere inside the 180° angle in front of the viewer, so they don't have to turn and look around, but stay aware of where to go next (Louden, *VR NOW Con & Awards*, Berlin, 2017).

However, creative director Noora Heiskanen from VR company Teatime Research says, that the world loses its plausibility if the viewer is too obviously directed to look at a certain direction. She questions if it is necessary at all to aim to make everyone notice the same things and give the same experience to different people. Instead of trying to grab the viewer's attention, she suggested enticing the viewer to actively experience the story by making them use the environment to their advantage in order to do so. If the viewer/player chooses to eavesdrop behind doors or peek through keyholes, for example, the story becomes their own achievement. (Heiskanen, interview, 2018.)

Even though the storyteller cannot force the player's viewing direction, Porkka, Viisanen and Taussi point out, that in VR the audience may notice more than the storyteller expects, because they will pay much more attention to the details of the



world, especially when that world is interactive. When the viewer is inside the story instead of their own, safe living room, it becomes more important for them to observe their surroundings, particularly when the surrounding situation requires or motivates them to do so, or when they interact with their surroundings with their own hands or body movements, and make choices that affect the world. (Porkka, Viisanen and Taussi, interview, 2018.)

#### 4.4 Choices of the viewer, and how interactivity affects storytelling

When we give the viewer agency in the world of the story, we are letting them sculpt the story for themselves. Every choice they make is a fork in the road of the story, where the viewer decides how their story takes shape. In traditional games there are roughly two ways of doing this: branching and dynamic narratives. I have borrowed these terms from *Play with Learning*, a creative media service by Dr Carlton Reeve from the University of Bradford, but there are other widely used terms, especially for the latter, such as sandbox storytelling or emergent narrative. Reeve also lists other player-determined narratives, but I feel those are subcategories of these two main ways of giving the player agency over the story. In a branching storyline the player goes through the story somewhat linearly, but is led to certain situations where they can make choices that define how the events will unfold from that point onward. Different branches may collapse back into one, but the player can still affect some parts of their path through choice. In a dynamic narrative the player can explore the world more freely and interact with whatever they might encounter. The former guides the viewer through a series of events, giving them choices that may affect the ending or some other episode in the game. The latter instead often means that the game concentrates less on a predetermined story, but rather on giving the player events, items, locations and characters to interact with, so each player's story emerges from their own decisions. (Reeve, 2010.)

Even if we expand a branching storyline into an abundance of choices, it is still a much more controlled way for the storyteller to design a story, and for the player to experience it, as the storyteller will know which choice-points in the story are in the beginning, which are in the middle and which are in the end. This kind of a narrative arch is a lot more difficult to achieve in a dynamic narrative, where the player encounters events at random and at their own pace, often exploring an open game world where they can wander around freely. Dynamic narratives, however, can lead

into a much more immersive experience, as they do not try to force that much control over the viewer, but instead operate more like the real world around us. In a sense, branching could be described as a chronological way of approaching interactive narrative when dynamic narrative is instead more spatial.

Dynamic and branching narratives are not mutually exclusive, but instead can be combined in ways that best benefit the desired experience. And even though I described them here in the way I have seen them used in traditional video games, I think the ideas are applicable to VR storytelling as well. In their VR horror game *End of the Road*, Porkka and Viisanen used the player's movement through the open virtual world to branch the story – the player could end up with one of two different endings by simply walking into it (Porkka & Viisanen, interview, 2018). So when applying story elements into VR experiences, it seems possible to combine these two methods into a kind of a map, where the story branches through locations in the virtual world. This way the storyteller can guide the player from the starting point towards the end, if they have some control over the player's journey through the world – which can be managed e.g. by preventing the player from backtracking to previous areas.

I will explore the relationship of branching and mapping more later in the next chapter, when discussing formats for writing interactive VR experiences, but first I will look more closely into applying structure into VR stories. I will try to investigate whether some traditional story structures and other classical storytelling tools could be useful in VR storytelling as well, what those tools and structures could be, and how VR storytellers could best use them to their advantage.

## **5 Building the story world: Structure and other narrative tools for VR**

So how should we approach building our stories for VR experiences? What is the storyteller's role in VR, if they are meant to give the control over the story into the player's hands? What kind of structures and other building blocks can we use to provide the audience with a story, even when the story is, in the end, their own construction?

Game designer Jaakko Kemppainen from HipFire Games says that adapting to what the player does will probably break the pacing of the story and mess with planned

structures. He encourages VR storytellers to “break down everything we know about telling stories in previous media, and rebuild our knowledge and understanding to fit the new media.” (Kemppainen, interview, 2018.)

We live in a world full of stories and narratives, and we have learned to structure our experiences into stories and find narrative and meaning among the abundance of seemingly random events in our lives. The question is, how to provide material that our audience can easily organise into a meaningful, impactful structure, and how to gently and inconspicuously help them in this narrative process.

### 5.1 Getting the audience to embark on your adventure

To find useful tools for creating compelling VR experiences, we should probably be able to define what makes for a compelling VR experience. That could prove more easily said than done, as the medium is so new and still searching its possibilities, but maybe we can find some ideas to establish some kinds of guidelines.

I saw artist Gilles Jobin’s VR installation *VR\_I* at *Loikka* dance film festival in April 2018. The piece was meant for five audience members at a time, and the characters in the virtual environment seemed to notice the viewer-avatars on occasion. One of the main ideas of the piece in my understanding was to persuade the viewers to communicate with each other and the virtual characters – supposedly through dance or other physical expression. The viewers were expected to use their bodies in the experience, and were even given avatar bodies so they could see their motions inside the virtual world. One of the five people in my group started dancing during the experience, but even though I am a dance enthusiast, the piece did not make me feel like dancing at all, and it got me wondering why. The experience was praised by some festival goers, but it left me feeling frustrated. Now, I have to stress that this was an art piece, so maybe I should not have evaluated it as a work of interactive storytelling, but as it was executed on a VR platform, I felt the piece wasted its potential for interactivity.

So what was *VR\_I* lacking? As a screenwriter – and as someone who consumes western fiction in its many forms like anybody else – I am used to an inciting incident, something that lures the character into action. I was the character in that experience, but there was nothing to motivate me, nothing that would have invited me to participate. I tried to touch the virtual dancers, but they did not react to my touch at all. Nothing I

did seem to have any effect on the world around me. There was no invitation to dance, if you will, and what is even worse, my initiatives to make contact with the world were ignored, and did not have any meaning. I think this is important to keep in mind when we, as storytellers, are writing for a medium where the viewer is in the centre of events. Especially if we wish to cause action in our viewers/players, we need to motivate them into that action and keep them motivated; let them know their actions matter.

## 5.2 The hero's journey into VR: Trying on narrative structures

One way to examine motivating the audience in an interactive experience is to place them as the protagonist of the story. When reading a book or watching a movie we are used to stories where the main character is motivated to act in a way that enables the story to happen. Even when they are reluctant heroes, their inner motivation combined with events of the external world usually causes them to interact with the world around them in some way, which in turn leads the story forward. The most important point in the story to make this happen is of course the beginning of the adventure, the point where the protagonist encounters something that changes their everyday life and propels them into action. So when we try to position our audience as the protagonist, we see that they might expect us to provide them with this kind of an inciting incident.

This point in the story where the normal everyday life of the protagonist is broken and the spark for the adventure is ignited can be found in the works of many dramatic structure theorists. But when we come to the point where the adventure actually begins, Joseph Campbell's "hero's journey" -structure might be worth inspecting in relation to VR. Joseph Campbell was a literature professor who studied hero myth narratives. In his book *A Hero With a Thousand Faces* (1949), he introduced a narrative structure called the hero's journey or the monomyth. It involves a set of events and archetypal characters that frequently occur in certain order in mythological narratives. What is so interesting in Campbell's work is that he divided the structure into something that takes place in two different worlds: the normal one, where the protagonist begins their story, and the world of adventure, which they need to enter, and where they will meet tests and ordeals, before they can return home triumphant, but altered by their experience. (Campbell, 1949.)

It is easy to see how this adventure in another world seems to translate wonderfully to interactive VR experiences. Astrid Kahmke, the creative director of the Bavarian Film Centre spoke at *Future Screens of Dance* conference in April 2018 about entering VR as the point in Campbell's monomyth where the hero steps over the threshold of the two worlds into the reality of the adventure (Kahmke, *Future Screens of Dance*, Helsinki, 2018). John Bucher also speculates that finding oneself inside VR might work as the action-inciting incident in a first person VR experience (Bucher, 2018, 160–161). I love this idea, because when used for interactive experiences, VR is a medium that really seems to let the viewer become the hero and journey through a magical realm.

But Kahmke's and Bucher's idea is also interesting because it seems to suggest that the beginning of the hero's journey according to Campbell's theory – including the call to adventure – would happen before the VR experience begins, and similarly the final stages of the journey the viewer would complete on their own, after they take off the headset. So what does this mean in terms of whether the hero's journey structure is applicable in interactive VR experiences? Can the storyteller apply the structure only partially, if they cannot influence what happens before the experience begins?

I think if we want to play with this idea and this structure, it leads us back to the viewer's expectations. In a way, we are used to the monomyth, as the structure can be seen in many works of fiction from the original Star Wars saga to the Harry Potter series. Campbell and his predecessors, like psychoanalyst Carl Jung, believed the structure to reflect the human psyche and "the drama of human lives", as described by producer and screenwriter Christopher Vogler (Vogler, memo, 1985). Vogler saw this as a good basis to build film narratives that appeal to audiences, and summarised Campbell's ideas into a short memo for Walt Disney Studios' screenwriters in the 1980s, and later expanded his notes into a screenwriting textbook *The Writer's Journey: Mythic Structure for Storytellers and Screenwriters*, which in turn made the structure even more popular among screenwriters and familiar among audiences.

So when entering the world of the story, the audience might well expect some elements of the hero's journey structure: allies and enemies, tests, ordeals and rewards. That is why we should not underestimate or ignore those expectations in VR narratives, as the structure they stem from seems to be somehow inherently related to the medium, as Kahmke's and Bucher's ideas seem to suggest. As we step inside the story, we expect to be guided somehow: we expect to find things of interest, we expect turning points

and a journey back (or at least somewhere), and we expect the journey to guide us and lead us along.

Bucher also discusses structure as something that rewards the audience and lets them find meaning in the events around them. He refers to a three-act dramatic structure often used in drama, and suggests it may be an efficient way to engage viewers/players into the experience. (Bucher, 2018, 158–159.) By steering the viewer through the virtual world in a controlled way, we may try to incorporate different classical structures into VR experiences, so Bucher suggests that these structures could be applied by presenting the viewer with interactive choices only (or mostly) between acts, and keeping the rest of the experience in the storyteller's control (Bucher, 2018, 117). Game designer Tero Alasmaa from Morrow Games also says, that in linear experiences the storyteller can effectively use a three-act structure to benefit the story (Alasmaa, interview, 2018). However, if we truly wish to allow the audience freedom to explore the world of our story and agency to interact with it, traditional act-structures might prove difficult. We need to remind ourselves of the viewer/player's agency, and what Kemppainen said earlier about agency messing with any planned structure. But could we still somehow try to examine and describe narratives in interactive VR in terms of structure, to better understand how to construct them?

In the interview, CEO and 3D artist Henri Taussi from Barracuda Disaster suggested, that nonlinear narratives might work better than linear ones in interactive VR, as the storyteller cannot predict the player's storyline through the experience (Taussi, interview, 2018). I started thinking about it, and realised, that looking at nonlinear narrative structures from the perspective of a screenwriting student, I tend to think about structures used in film and television – using flashbacks to mimic human memory or filling in backstory, flashforwards to mimic imagination and expectation, or other techniques that interrupt the chronology of the story. However, in film and television these are techniques that are placed carefully by the storyteller in predetermined points in the desired chronology. If we as storytellers want to aim for the previously discussed sense of agency and immersion for the viewer, we need to give up at least some, if not most of the control over what they experience and especially, when they experience it. So instead of controlling the chronology every step of the player's way, we need to think of other ways to construct the experience.

### 5.3 World as structure

With interactive VR storytelling we might not know exactly *when* the viewer/player encounters the pieces of our narrative in the experience, but what we can predetermine, is *where* they can find the elements of the story. So instead of looking at structure in interactive VR experiences as a chronological tool, maybe we should look at it as a spatial one?

Lead designer Gregory Loudon from 3rd Eye Studios encourages storytellers to seize the opportunity of telling stories through world (Loudon, *VR NOW Con & Awards*, Berlin, 2017). In VR, world might well be the most important storytelling tool, because in most interactive experiences there will be no other character to interact with the environment instead of the viewer/player. Kemppainen sees environmental storytelling as one of the greatest possibilities of VR (Kemppainen, interview, 2018).

Producer and creative director Sami Porkka from Barracuda Disaster also says, that the environment is what is telling the story in VR, and adds, that it needs to match the story being told. He gives an example, where the player is at a cabin, and notices, that the number of beds is one fewer than the number of plates set on the table. The player will probably conclude, that there has been a guest at the table or that the table party has set an extra plate to remember someone who was absent. Porkka says, that the storyteller can use these kinds of details to their advantage, but they need to be mindful of this, and not confuse the player with unplanned details that are meaningless or go against the story. (Porkka, interview, 2018.)

Loudon agrees, that no detail should be there by chance, but instead they should all communicate the story (Loudon, interview, 2018). Alasmaa also discusses the importance of environmental details as storytelling tools, saying, that everything in the virtual space needs to serve a narrative function and add to the story (Alasmaa, interview, 2018).

So we might speculate that at least for the time being, interactive VR stories should not be told so much by the events happening in the world, as with the world itself, events being just a fraction of the bigger picture. However, creative director Noora Heiskanen from VR company Teatime Research adds that a believable environment also serves as a story motor and a driver for the audience (Heiskanen, interview, 2018). This leads

us to the conclusion, that by carefully designing the environment to benefit the story and motivate the player, the storyteller may find a way to influence the events of the story as well.

If we compare this idea with storytelling in other media, we can replace the role of the player with those of the protagonist and the audience. In many media the story world can motivate the protagonist into taking action, and that action may in turn affect the world around the protagonist. And while for example in film and television this interaction between the protagonist and the world is in the storyteller's control, the audience also has a role in noticing and interpreting the environmental elements, thus participating in the construction of narrative meaning. In this sense, the storyteller's work in VR does not differ so greatly from their work in other media. However, while the world can be an important narrative element in any visual medium, in interactive VR its importance is emphasised, as the protagonist's and audience's interaction with the environment is not filtered by the storyteller.

#### 5.4 Scaling and pacing the story

Structure has a lot to do with pacing the story, as it is a way for the storyteller to control when the audience encounters certain events and narrative functions. So what kind of guidelines should we use for pacing our stories, if we wish to give up on that control, and instead aim for maximum agency and immersion? And if we start to structure our stories through the world, that approach brings with it questions about how to scale the spatial dimensions to fit the story, and vice versa.

In her interview, Heiskanen said, that when she designs a VR experience, she begins with a storyboard of the emotions she wants the experience to convey, and then plans a story arch with peaks and valleys in the mood and ambience of the experience. That way, she can plan the pacing of an emotional arch for the experience, even without knowing what the viewer/player decides to do. (Heiskanen, interview, 2018.) However, if you do not know the exact duration of the experience beforehand, which might well be the case, perhaps you could tie the ambient to certain locations in the world, and guide your audience through them linearly?

Alasmaa and Kemppainen recommend keeping the pace rather slow in VR experiences in order to let the player move inside the world comfortably and give them



time to explore, experience and put together their account of the story. (Alasmaa, interview, 2018 & Kemppainen, interview, 2018.) This seems to call for stories that are manageable in size, so the audience will not get overwhelmed.

Many of my interviewees talked about scaling stories in VR down, or dividing them into smaller chapters. The reasons for this are manifold. In his speech at the *VR NOW Con & Awards*, Louden discussed the problem of motion sickness that can occur and the discomfort the headset can cause when spending longer periods of time in an interactive environment. Even though the technology has evolved greatly towards user comfort and keeps on evolving, it is still safer to use an episodic structure which allows the players to experience a satisfying narrative whole without exhausting themselves or getting nauseous. (Louden, *VR NOW Con & Awards*, Berlin, 2017.) Kemppainen also says that compared to more distanced mediums, playing in VR causes more cognitive load, which can make it more tiresome for the player. He recommends keeping to 15 to 20 minute story blocks, so there are natural points for the player to have a break. (Kemppainen, interview, 2018.)

The space where the audience can actually move in a virtual environment at a time is limited. Virtual worlds that are designed to be brought into the living rooms of audiences need to take into account, that those living rooms might allow the player to move around for only a couple of steps at a time, before they have to use other means (often handheld controllers) to transport themselves elsewhere in the virtual space. That is why Alasmaa recommends designing narrative units small enough to fit the spaces where the player can interact without moving around, and then linking those units with locomotion (Alasmaa, interview, 2018).

On the other hand, some VR storytellers have found ways to obscure the limitations that stem from the actual world dimensions by incorporating hand-controlled movement in the experience in ways, where the movement control plays together with the story world. For example, in VR sci-fi thriller game *Downward Spiral: Horus Station* the player finds themselves on a space station, where they can move around in zero gravity by using their hands to grab railings and push off walls. But even Gregory Louden, lead designer of *Downward Spiral* series, sees locomotion in the virtual space to still be a challenge. However, he reminds us that not all stories require movement. (Louden, interview, 2018.)

## 5.5 Genre and theme

Genre and theme are essential tools in any storytelling, but it seems that they might become even more central in VR. I base this impression on many of the ideas discussed here previously: telling the story with the world, the challenges with structure and timing, giving the story over to the viewer and letting their expectations guide the meaning that emerges from the experience.

According to Heiskanen, emotions are harder to cause in the viewer in VR than in other, more storyteller-controlled mediums, but they can be provoked with mood and atmosphere. If the viewer catches on to the mood, it will be easier for them to find meaning and narrative in the experience. Heiskanen points out that you cannot try to feed the emotions to the viewer as you can write them on a character, but says, that a well-designed VR experience will most likely stir some emotions in the audience and therefore the experience can still feel rewarding. However, Heiskanen notes that genre helps to guide the storyteller's choice of atmosphere and the viewer's expectations of the experience. (Heiskanen, interview, 2018.)

Porkka, along with Teemu Viisanen from *Barracuda Disaster*, agrees with Heiskanen on the use of genre as a guide for both interpreting the environment and creating expectations. When they designed their VR game *End of the Road*, they used generic conventions from survival- and cabin horror movies to effectively convey expectations and emotion to the player. (Porkka & Viisanen, interview, 2018.)

As genre clues guide expectations of the story on a more superficial level, theme on the other hand guides the emotional journey of the player. It pierces through the world, addressing and reflecting the viewer's experiences.

Theme, a word derived from Greek, is close in meaning to the Latin-based premise. Both words mean 'something set before', something laid out in advance that helps determine a future course. The theme of a story is an underlying statement or assumption about an aspect of life. (Vogler, 1992, 111)

In interactive virtual reality, having a strong understanding of the theme before taking any further steps in story design could help the storyteller navigate a situation, where they don't have many other familiar storytelling tools (like plot, character interaction or conventional structures) at their disposal. In *Storytelling for Virtual Reality* Jessica Brillhart says VR storytelling requires unpacking the story down to its core:

It's thinking about unpacking the story that you want to tell. Is it love? Is it peace? Is it humanity? Is it connecting with another human being? Is it life and death? You start really thinking about the story spirit and then you start to think about how you can create these worlds that facilitate that. (Brillhart, as cited in Bucher, 2018, 13)

I think Louden's definition of a great story also relates to theme, as I see theme as the core idea of a story, the message it wishes to convey and the questions that rise in relation to that message:

To me, a great story is a world, a message and a question. It's a world for your audience to jump into, a message for them to discover . . . and finally a question: What happens next? What does this story do to me? How has it changed how I feel? If you can tell a great story, it has a world, a message and a question. (Louden, *VR NOW Con & Awards*, Berlin, 2017.)

## 5.6 How to write it down: What kind of formats to use when writing for VR

Now that we have discussed building narrative experiences in VR, I would like to look at the actual screenplay, if you can call it that in the context of VR experiences. In *The Screenwriter's Workbook*, screenwriter Syd Field defines a screenplay as a story told in word and picture, so that in addition to reading the dialogue, the reader of a screenplay can read what the camera sees. He sees dramatic structure as a "*linear arrangement of related incidents, episodes, and events leading to a dramatic resolution*". (Field, 1984, 20–21.) Thus, the screenplay can be planned and written linearly, from beginning to end, and as screenwriters working with film and television know, there is an established format to do that, which is widely used in the industry.

But how do we write a screenplay for a story that revolves around the viewer, hidden in all the possible interactions with the environment? How do we approach a screenplay for VR, when we as writers or storytellers cannot be sure where the viewer looks and what they see, what pieces of the VR environment they use to put together a story, and what their chronology and story will be like? Although we have discussed ideas for structuring a VR experience and guiding the viewer's attention, it is difficult for us to define a structure or arrange our story linearly, especially if we want to give the viewer some agency in our story. Even if we were to take away the interactivity in order to force the story to follow our own will, we would still have the problem of writing directions in space and organising multiple simultaneous events or locations into a linear screenplay.

On the VR news page *VR Scout*, Jesse Damiani lists some possibilities for screenwriting a story around the viewer. Some of them look more like the classic screenplay format used in the film industry, and some use colours and diagrams to illustrate directions. Even though they differ from each other in layout, what they have in common is that they all divide different directions into sections in text. During my studies I participated in a 360° music video collaboration between Metropolia and YLE, and we used a spreadsheet to organise events around the viewer (Innovation project, Metropolia, 2016–2017).

However, when I asked my interviewees how they had dealt with writing many simultaneous events in different directions, many of them said they had avoided or would try to avoid doing so in an interactive VR experience. I was confused at first, because when working with the music video project I felt strongly that one important point of having a 360° experience is the viewer's freedom to choose where to look, and if there is not much to choose from, there is not much freedom either. But after looking deeper into my interview data I understood that writing a non-interactive, omnidirectional video experience differs from writing an interactive VR experience, where you have the possibility to move around the world, to interact with objects and to collect clues – to uncover a story even when there are no events happening around the viewer at all.

In contrast to interactive VR, 360° video also lets the storyteller control two critical aspects of the experience. First of all they know exactly where the viewer will be standing when they look around, as they can choose where to place the camera. Secondly, knowing where the camera is situated at every step of the way, and not having interaction which affects the world, means more control over the chronology of the experience, than in VR. This leads me to the conclusion that those formats listed by *VR Scout* might work better for omnidirectional video than for interactive VR storytelling. It seems that they might sometimes be useful when writing an interactive VR experience, but certainly we need something else as well.

Earlier in this thesis we discussed branching, a way of forking a story's path with choices the audience makes along the way. As this mechanic has been used in the video game industry for decades, there are software tools for this kind of a narrative format. These tools let storytellers write down points where the player's interaction with

the world determines where their story ends up next. The story can branch with a simple decision – pressing a button, taking an object or leaving it be, answering yes or no – or in some cases branching can happen through the outcome of the player's efforts, their success or failure. However, as previously discussed, branching formats are still quite storyteller-controlled, as the choices of the player are organised chronologically in such a format.

When discussing the format with my interviewees, what arose above all else was the importance of writing spatially when working with interactive VR. Alasmaa told me he begins his process with drawing a storyboard, but then goes on to planning the timeline through locations (Alasmaa, interview, 2018). Heiskanen also uses a storyboard and a drawn map to plan a VR experience. Then she goes on to write everything down on a timeline, where the soundscape goes below and the core idea of events and situations above. (Heiskanen, interview, 2018.)

When working with *End of the Road*, Porkka and Viisanen used a regular text-editor to write the story content, but organised the documents by locations on a map of the game world, using the most likely path of the player as a guideline to predict possible chronology (Porkka & Viisanen, interview, 2018). Kempainen and his team seemed to have a similar process when working on sci-fi exploration game *P.O.L.L.E.N* for VR with Mindfield Games:

In Pollen we just wrote the optimal path vertical slice for the story. Beside that, it was just hundreds of separate documents, describing all the important items, room layouts, puzzles, reasons for certain mechanics, audio tapes, dialogs etc. I think our Google Drive document space was about 300 pages of text + a lot of excels, drawings, etc. (Kempainen, interview, 2018.)

Louden also highlights the importance of effective use of sets and locations in VR, but says it does not differ so much from other media:

I often outline and chart my story first to ensure narrative payoffs and variety. As in all professional media, there is often scope, so this allows efficient use of sets and locations. I haven't found any key difference in terms of writing. (Louden, interview, 2018)

Louden describes his writing as similar to traditional screenwriting, but with some light programmatic features for interactivity and with less description, as part of his storytelling process is also building the world with artists. (Louden, interview, 2018)

So it seems, that when we are not really using cameras, the perspective of writing and formatting shifts from the viewer to the world. As we can see, especially when inspecting the working processes of Kemppainen, Porkka and Viisanen, the screenwriting format in VR expands from a single document into multiple different ones, linked together through spatial dimensions of the interactive world.

## **6 Creatures of the enchanted world: Characters in VR**

We have discussed the player's journey through the world of the story, and touched on their relationship with the environment. But who are they, when they enter a virtual world? Are they themselves or the protagonist of a story, or are these two the same thing? And if so, then what is the storyteller's relationship to them?

In most storytelling it is central to know your characters, especially the main character thoroughly: What are your characters' wants, needs and fears, and how will they display those in their behaviour? What kind of relationships does the main character have with other characters and how will those relationships evolve during the story? And most importantly, how will they themselves evolve? What will they learn and what kind of a change will they undergo? But how can you answer any of these questions, when you give your main character over to someone else, to be played out perhaps differently every time? How do you deal with a character who is in the centre of the events but who you do not know and whose mind you cannot read?

### **6.1 The viewer as the protagonist**

In my screenwriting studies I was taught that the protagonist is defined by their change. They are the character that changes, grows or learns the most during the story, and that change is defined by the storyteller. However, in interactive VR, the player not only empathises with, but often also embodies, the active and central character in the story. Their own thoughts, ideas and movements enter the character with them, so maybe they should also be the one defining and experiencing the change during the course of the story. In this section I will examine the audience's relationship to the protagonist in interactive VR.

It is interesting to note that in the interviews, producer and creative director Sami Porkka and programmer Teemu Viisanen from Barracuda Disaster consistently used the term “player” when talking about the player’s character in their first title, VR horror game *End of the Road*, even though the game includes both clues about recent events in the character’s life and notes about their current state of mind, so clearly there is something of a character that can be separated from the actual player. I think this is a good example of how intertwined the player and the character often are in VR games. This is similar to how players often refer to themselves when they are actually talking about their characters after a LARP, as if they were inseparable from their characters.

According to lead designer Gregory Loudon from 3rd Eye Studios, the viewer or player is themselves in a VR experience. In traditional games the player is usually given a ready-made character, an avatar whom they control and whose story they follow, but Loudon says in VR this does not work that well, as the audience is active and invested in the experience on a personal level. Therefore the stakes should be connected to the player themselves instead of a fictional character, and the character and their past and present should be left open to interpretation. (Louden, interview, 2018.)

In his book *Story Structure and Development: A Guide for Animators, VFX Artists, Game Designers and Virtual Reality*, Craig Caldwell uses the term “viewer-character” while defining the audience’s role in VR. Caldwell states that the whole point of VR is to make the viewer feel they are present in the world, and thus presence is primary. In VR the fourth wall is intrinsically broken, as the viewer has been brought inside the story. (Caldwell, 2017, 108–109.)

In her work at Teatime Research, creative director Noora Heiskanen tries to avoid imposing a character on the viewer, and instead lets them use their own characteristics, experiences and knowledge to fill out the role in each VR experience. She says even unfamiliar details, like a mobile phone that belongs to the character but does not look like the player’s own, can alienate the player from their character enough to break the immersion. If the storyteller wishes for the player to immerse themselves in their avatar and the experience as much as possible, they should avoid anything that might make the viewer feel like they are not really there themselves. However, Heiskanen points out that an experience can feel dramatic and emotional for the viewer/player even when they are not that immersed in the experience: you just need

to know what you're trying to achieve as a storyteller, and design your experience accordingly. (Heiskanen, interview, 2018.)

Game designer Jaakko Kemppainen from HipFire Games also encourages storytellers to let the player do the thinking, and explain and introduce story elements inside the world instead of the character. He warns that in particular, putting voices inside the character's head (unless writing e.g. a schizophrenia scene), or giving the player a character they cannot identify with, can make the player feel like they are trapped inside a puppet just following the storyteller's scheme: "Let the player character be *tabula rasa*, which the player can use to draw her own interpretation of the main character." (Kemppainen, interview, 2018.)

If we wish to let the player be themselves in an interactive VR experience – or let them freely imagine a character for themselves – we accept that they will probably fill the character with their own wants, needs and fears. As the protagonist's fundamental want and need are often an essential story-driving element, at least in more traditional mediums, we notice that we have two choices: we may either let those wants and needs guide the player's journey and their expectations and interpretations of the world, or we may try to use the environment and any other narrative tools at our disposal to guide their wants and needs on the journey through the experience.

Even though there are many viewpoints supporting the choice of leaving the player character *tabula rasa*, it is still possible to give the player an opportunity to immerse in a story world as someone else – as a character – and it has reference points in other media. Even if we leave out video games where the player is still external from their character, or tabletop RPGs, where the character takes form only in the player's imagination, we still at least have LARP to turn to in order to find examples of giving the player an outlined character to embody.

In a LARP you usually design a character by yourself or with a game master or, as in the Finnish LARP scene, get a pre-written character from the game designers. You take the role of that character with their history, their personality and their goals for the events taking place during the game. Even in the case of the pre-written character, the player often gets to choose what kind of themes, relationships and gameplay your character will have in store for them, and they still get to make all the choices during the game and fill out the character with their own actions, movements and feelings. But



if as a VR storyteller you do not want to make your player memorise a character before they enter your story world, how can you give the character – or it's outlines – to the player after they have entered the game?

Porkka, Viisanen, and CEO and 3D artist Henri Taussi from Barracuda Disaster point out that in VR you cannot introduce the character in the beginning of a VR experience in a cutscene or text, as in traditional games. Flashbacks may be possible, but as with everything in VR, you cannot force the player to take in information, and you should give them agency even in said flashbacks. The player will usually not see much of their character either, so you cannot even give hints about their personality through their appearance. (Porkka, Taussi & Viisanen, interview, 2018.)

Maybe those alienating details that Heiskanen discussed in the section above have their place here, conveying the outlines of a character to the player and creating some difference between the player's role in their everyday life and their role in the world of the story? Porkka and Viisanen suggest using elements that are recognisable for your target audience, to communicate ideas about the character to the player. The character's possessions and their apartment, for example, can become important in telling the player who they are in the story world. (Porkka & Viisanen, interview, 2018.)

Kemppainen says it may be difficult for many players to assume the role of someone else, when VR as a medium is so attached to the player's self, and the experience is always first person. When developing VR game *P.O.L.L.E.N*, he and his team gave the player the possibility of defining their own role in the game. They did this by asking the player a few "recruitment questions" at the beginning of the game. The answers defined, among other small details, the character's sound effects during the game. (Kemppainen, interview, 2018.)

While discussing the relationship between the player and their character, Heiskanen refers to the actor and teacher Ed Hooks, who has talked about empathy as a means of relating to a character. According to Hooks, empathy is something you feel for someone else, not for yourself. Feeling emotions through experiencing empathy is different from feeling those emotions yourself. Therefore in VR you should never try to make the viewer empathise with their avatar, as it can make for a confusing experience, and feel as if you are trying to force certain emotions on them. (Heiskanen,

interview, 2018.) If you instead choose to write another character into the experience, you can of course try to awaken the player's empathy towards them.

Possibly equally as challenging to designing the player character, is designing the other characters in the virtual environment with the player. Simply being in the same story creates a relationship between the player and other characters, so how can the VR storyteller take that relationship into account? What are the technological challenges of interpersonal relationships in VR, and how will the personal nature of VR affect these relationships? In the next sections I look into the player's relationship with other characters, whether they be completely the storyteller's creations or controlled by other players occupying the same virtual space.

## 6.2 Non-player characters

Currently there can still be some problems with the technology when trying to implement "non-player characters" or NPCs into VR experiences. Porkka, Taussi and Viisanen list some of those issues: first of all you would have to get the viewer-player's attention on the other character, and as we know, we cannot make that decision for the player. Secondly, even if the player gave the NPC their full attention at the important moments, it might break the immersion for them, as especially in experiences created with limited resources the other character's appearance and facial expressions might land in the uncanny valley. (Porkka, Taussi & Viisanen, interview, 2018.)

Heiskanen also notes that people are good at noticing when something – and especially someone – is not real, because one of our most important survival skills as human beings is to observe other people and their behaviour. On the other hand it is easy to get attached to a companion character, no matter how unrealistic, cartoonish or machine-like they seem. While we are good at spotting suspicious and unnatural behaviour in others, at the same time we are also good at empathising with animals, robots and even inanimate objects like toys. (Heiskanen, interview, 2018.) So it might be better to make the other characters distinctly non-human, so as to avoid them being unnervingly inhuman.

Even though the constantly evolving technology and creative solutions in character design can solve the issue of unnaturalness, there can still be challenges with communicating with the NPCs. As Porkka, Taussi and Viisanen discuss, implementing text op-

tions for the player to choose from can break the immersion if they are not embedded into the world itself, and using voice recognition to listen to the player can lead to misunderstandings – at least until natural language processing evolves to be more reliable. So until the player can communicate with the world simply by using their own voice and words, it might be best to give them other alternatives for communication: hand or head gestures, pen and paper, digital interfaces, things that can be integrated in the virtual world and seem like a natural element in the story. (Porkka, Taussi & Viisanen, 2018.)

Not being able to talk to other characters can also be used to benefit storytelling. For example, game designer Tero Alasmaa told me about using such a technique when developing a VR horror game called *Crowmire* with Morrow Games. In the game there is a monster that talks to the player character, but the player cannot answer, which adds to the oppressive atmosphere. (Alasmaa, interview, 2018)

Even though there are challenges with creating characters for the player to interact with, Kempainen says that when they are properly executed, interpersonal interactions can feel really good in VR (Kempainen, interview, 2018). Viisanen notes that glances, glares and gestures can be used to tell stories much more efficiently in VR than in traditional games, as the player can view and observe the other characters the same way they observe others in the real world (Viisanen, interview, 2018). However, Kempainen and Loudon regard interaction as key in the relationship between the player and supporting characters. Kempainen warns that long NPC monologues can kill the player's mood when the player cannot interact and answer back. (Kempainen, interview, 2018.) Loudon says that unless the relationship is built within the experience, it can feel more disconnected:

For example being told you're in love with a character is different to falling in love with a character. In VR it's better to build, as it's an active medium. (Louden, interview, 2018.)

Heiskanen points out that a storyteller can also use characters as elements of the world rather than as something the player has to pay a lot of attention to. Other characters can be, for example, dancers in the background or ordinary people hurrying to run their errands; their movements and actions can be used to create the setting rather than creating interaction for the player. The relationship to NPCs does not always have to be personal, even though the experience itself is. (Heiskanen, interview, 2018.)

VR might also be a good medium in which to use supporting characters that are absent. As the environment around the player can be observed in detail, it can also be used to paint a portrait of a character and – if the storyteller so wishes – emphasise their absence or give hints of their presence even if they are not there themselves. This is what Kemppainen and his team at Mindfield Games did when creating VR game *P.O.L.L.E.N.*:

Pollen didn't include other characters, only traces of them (personal items, audio tapes, letters...). When designing the game, I tried to "live" the lives of all the characters, so we could make the world and the story as consistent and believable as possible. (Kemppainen, interview, 2018.)

### 6.3 Other players' characters in multiplayer mode

While there might be challenges in implementing interactive non-player characters, social interaction could be built in another way. There are multiplayer VR games and experiences that let the player face the virtual world with others. This eliminates the problems with voice recognition, as the players can use microphones to talk to each other whether they are in the same space in the real world or whether they are brought into the same virtual space via an online connection. The obvious applications for multiplayer gameplay are action-packed "sports" or battle games, where players either combat each other or face hordes of enemies in co-operation. These are often (but not by any means always) light on story, however, while the main focus is on action.

As a screenwriting student I was taught to believe that action scenes (e.g. car chases, gun fights and the like) interrupt the progression of the story, especially the plot lines related to character relationships. In story-driven video games this is certainly often the case, as many modern games are built to alternate between cutscenes that progress the story, and gameplay where the story is on hold for the duration of the interaction. However, there are games where the actual gameplay and storytelling go beautifully hand in hand (such as *Journey*, 2012, *Brothers: A Tale of Two Sons*, 2013 or *What Remains of Edith Finch*, 2017), and for many game developers this is the holy grail of story-driven game design. As stated earlier by Loudon, "play, don't show" is a good guideline for creating captivating narrative for games. As I love stories that are rich with character interaction, but greatly enjoy the interactivity in games as well, I am naturally interested in intertwining these two.

I think it could be interesting to draw inspiration from social gameplay and storytelling methods used in LARP and use those with VR. Live action games for the most part are multiplayer stories for the participants to interact in. The storyteller can prompt certain directions for player-interaction and hide sparks for the story inside the virtual world, but give the players freedom to continue the story on their own. There are games like this for computer platforms as well – online multiplayer RPGs of social intrigue and interaction instead of battles and sports, so perhaps it would not be an impossible idea for VR either.

As creating believable NPCs can still prove difficult in VR, designing experiences for multiple players could be one possibility for including character interaction in VR stories. Even if characters' faces or bodies were not visible, hand and head motions, possible voices and the other character's interactions with the world could provide meaning for all the players occupying the VR space together. In applications where all the players would occupy the same real life -space, the players would also have the option to use touch for communication. They could actually stand back to back or side by side, arms brushing, for example.

Pete Billington, immersive storyteller at the Oculus Story Studio thinks experiencing a story together with friends, and co-operating with friends is something to aspire to with VR storytelling. He sees this as a continuum to tabletop RPGs, where the players gather to experience an immersive story together:

That's the evolution of Dungeons & Dragons type of storytelling where you are with a group of friends, experiencing a story together, and each of you are playing a role. (Billington, as cited in Bucher, 2018, 74–75)

Now that we have extensively discussed the agency of the player, and how important it is to let them become the protagonist of their own story in interactive VR, it is good to note that there are VR experiences – even interactive ones – where the player is not the main character or where they do not seem to have a body inside the story at all. I will discuss those kinds of experiences in the next sections. Naturally there are also VR experiences without interactivity, and I will briefly discuss them as well, as I think it can be useful to look at some of those examples to better understand the viewer's need for agency in VR.

#### 6.4 A disembodied viewer

The viewer can be placed completely outside the story in both a VR “movie” and an interactive VR experience. The question is, should we? In an interactive experience the viewer can for example take a godlike role, controlling the events of the story from a bird’s eye view. This is a common perspective in strategic video games and has been used in VR games as well. I have heard it can be a lot of fun for the player, but have not yet had the chance to try it myself in VR. Often strategy games are not used to tell the most intimate of stories, as their main focus is on wider perspective and stories of events rather than personal destinies, but storytelling is by no means out of question in them. In any case these games often give the player a role outside of the events, and yet agency over everything in the game.

So experiences that place the viewer outside the events are not necessarily lacking in interactivity, narrative or allure, but this does seem to disregard the personal nature of VR as a medium. In addition, placing the viewer inside the world and then stripping away their possibility for interacting with that world (if not justified inside the story) can feel strange and frustrating, as stated in the earlier chapters. To me it seems that leaving the viewer out of the story leaves VR’s possibilities unused in a sense, as we do have other mediums to tell those kinds of stories.

I watched Oculus Story Studio’s VR film *Dear Angelica*, a celebrated and touching story of a daughter missing her mother. The experience uses technology that lets the viewer step inside beautifully illustrated visions: a teenage daughter’s memories of her deceased mother. The viewer is there with the girl, in the moment of grieving and remembering. For me, the experience was interesting and moving, but still somehow frustrating, as even though I could walk around in the VR space and turn my head to look in any direction, it felt as if my body had ceased being, and my actions had no consequence. I had no contact with the girl or her world; I was an incorporeal intruder, out of place there. Had I been a different kind of a viewer with a different background, it might have felt natural for me for example to somehow step into the role of the mother’s spirit, or just relax and enjoy the story, just like when watching a film on screen. But coming from a gamer’s background and being a very physical and social – maybe even restless – person, I felt disappointed with the lack of interaction. I longed for the possibility of doing something inside the space: comforting the girl for example, or interacting with the memories somehow.

## 6.5 Viewer as a supporting character

Looking at the viewpoint character's roles in other mediums, we can expect that while the viewer often takes the role of the main character in interactive VR, the storyteller could also build their character like Watson in the *Sherlock Holmes* stories or Nick Carraway in *The Great Gatsby*: they do not have to be the main character to be an active agent in the story. But now that we have talked about how the player can create their own story in interactive VR and should be able to do so, it seems best to ask if we should use this kind of a narrative construction at all, or will it affect the player's feeling of agency over the story and the personal nature of their experience?

In a sense, VR might be a great medium to put players in the shoes of the sidekick, the trusted friend or some other important figure in the main character's story, as one of the reasons we wish to enter the stories we love is meeting the characters of those stories. Especially if the previously discussed technical issues regarding communication and the natural appearance of characters can be solved, it could be wonderful to stand by the main character's side and follow their story from close proximity, help them and see how they evolve and how their story unfolds, perhaps because of you, the player. That could be a great way to get the best of both the personal experience and the feeling of agency, but also the empathy only felt for another character that Heiskanen and Hooks talked about.

Fable Studio's *The Wolves in the Walls* seems like a promising project that seizes the possibilities of this kind of a narrative solution. Based on the book by Neil Gaiman and Dave McKean, it tells the story of 11-year-old Lucy, who is trying to prove there are wolves in the walls of her house. She takes on the viewer, in the role of her imaginary friend, to help her. *Wolves in the Walls* exists somewhere in the area between a movie and a game, giving the viewer agency, but still following a storyteller's plan for the main character and their helper. The main focus of the experience is in the relationship between Lucy and the player character, and the piece is praised for its innovation in the way it does this. The interaction between Lucy and the player goes both ways, as the little girl can give her imaginary friend new features that affect the player's actions and experience.

## 6.6 Having a physical body in a virtual space

Whether the player character is the protagonist of their experience, a supporting character, or even disembodied in the sense that other characters do not seem to notice them, entering VR can be a very corporeal experience compared to most other mediums. The player's body, its movements and dimensions are even more present, when the world is interactive. What does it mean in terms of storytelling when the viewer can experience their body and move it inside the story?

Heiskanen points out that in VR there are no external user interfaces to interact with the experience, but the user is the interface themselves. This changes how they relate to the story, but it also changes how the storyteller can use movement in the story, as the possibilities of moving and travelling are limited by the user's mobility and the space they are in. On the other hand, the measurements and dimensions of the user's body give structure to the world around the viewer – what can they touch, where can they move, what is reachable and what is too far? (Heiskanen, interview, 2018.)

Louden says, that interacting with VR with their own hands can give the player a level of immersion and interactivity that no other user interface is able to. Even though modern VR still uses controllers to interact with the environment, users' hand movements are still there, and the designers can use them to their advantage. (Louden, interview, 2018.)

Alasmaa underlines that the immersion deepens when every action is the player's own physical action. For example, it is the player themselves raising the gun in their hand and pulling the trigger. Using a mouse or a gamepad to interact with events on a screen is a completely different experience. (Alasmaa, interview, 2018.)

In his book, John Bucher interviews VR storyteller and artist Chris Milk, a co-founder of VR production company Here Be Dragons. Milk also thinks having and using a body inside a work of fiction makes the experience more powerful:

Feeling your physical presence in space with another person connects you to that person on a deeper level, and it connects you to the place that you're in, and it connects you to the story that's happening. The story that happens will be a memory rather than just a piece of media that you consumed. (Milk, as cited in Bucher, 2018, 104.)



Kemppainen's view is along the same lines as Milk, when he says that VR has the power to make the audience feel physically present in – and connected with – the story, which in turn amplifies emotions. He points out that with that connection and presence comes an opportunity to present the player with choices that might have a personal impact on them. (Kemppainen, interview, 2018.) Heiskanen also underlines the power of that personal impact and the ability of VR experiences to create actual memories in the audience. She points out that VR designers need to be mindful of that power and the responsibility that comes with it. (Heiskanen, interview, 2018.)

## **7 Storyteller's responsibility**

As any medium has an impact on its audience, there is therefore responsibility for those creating and distributing its content. Due to the personal nature and immersiveness of VR, its impact on the audience could in some cases be quite powerful. As a larper I have felt a fictional life I have lived only for a few hours haunting me with its events, relationships and emotions for a couple of weeks after a game, and I have heard descriptions of even more severe cases of “bleed” – the mixing of a character's feelings to your own. This lingering of a feeling or mood can happen with other media as well, and most of us have encountered truly life altering works of fiction in one medium or other. I asked my interviewees about the ethics of VR, as I was interested in how we as storytellers could better recognise our responsibility and take it into account.

Lead designer Gregory Loudon from 3rd Eye Studios notes that with VR online multiplayer options need to be assessed even more thoroughly than before. As players can get aggressive and offensive towards each other in existing online multiplayer games, the experience can be even more intimidating when it happens to you inside the virtual world, where there is not similar distance between the player, their character and other players' characters. Therefore the designers and storytellers need to be careful in creating possibilities for interaction between players. According to Loudon this means not only making sure the player can block possible harassers in multiplayer VR games, but also being aware of how the story affects its players and what kind of interaction it encourages. (Louden, interview, 2018.)

I think with VR harassment is a thing to be aware of. Personal space can be invaded very easily and things do feel more real through the use of avatars. I feel VR like all mediums and stories can be used for positive or negative consequences. Like all great stories they should change people, so as a storytellers we need to be aware of that and aim to make people more equal and better than worse. (Louden, interview, 2018.)

As live action role play shows us, great stories can be built together with other players. Similarly to LARP, the personal nature of VR gives those stories even more emotional impact. People fall in love with fictional characters all the time, as can be seen from the romantically inclined fandoms that have formed around charming villains, like Professor Snape in JK Rowling's work or Loki in the Marvel movies. There are also stories about romances that have sparked over multiplayer online games, where people first got to know each other as their characters. If characters on screen or in a book can feel so real that people attach their feelings to them, similar experiences in VR can feel even more powerful. As many of my interviewees note, falling in love with, or pointing a gun at, another character can feel unnervingly real in VR. And this does not apply only to other players' characters, but to non-player characters as well. The storyteller should be mindful of this, as they thread the line between packing their story with emotional impact and yet trying not to mess with their audience's heads too much.

## **8 Discussion**

I set out to find guidelines for writing interactive narratives for VR experiences. I thought I would go through basic narrative tools and briefly discuss all of them in the context of interactive VR. Instead, my investigations and especially my interviews led me to explore the audience's role from many different perspectives. Among other things I discovered that there does not seem to be an established word for the person experiencing and interacting with the VR world that would apply to all different experiences. "Audience" works in some cases, but sometimes it would be more accurate to talk about a single person's experience. "Player" on the other hand only relates to games and "viewer" relates to a passive observer. So I ended up wondering what the audience's role is in interactive VR, and furthermore, what the storyteller's role is in this equation, where the audience creates the narrative for themselves.

From my interviewees I learned that the key ideas to take into consideration when writing narrative for interactive VR seem to be presence, personal experience, agency

and environmental storytelling. The first three of these seem to be closely connected to the person experiencing the environment, while only the last seems to be the storyteller's domain. In a way, I found the storyteller's role in interactive VR much harder for me to pinpoint and understand.

The audience connects with the story through being present in the story world, actively observing it, interacting with it, and having an effect on it. Their relationship to the virtual environment is central, so the environment becomes a frame for the storyteller to use when constructing the narrative. But what is the storyteller's relationship with the audience? They cannot carry the audience like a puppet on strings through the adventure, so it seems that instead they need to persuade and motivate the experiencer to use the provided agency and to take part in creating the stories in interaction with the storyteller. The virtual world is the arena, where through that interaction, stories are forged.

Even though I may have found some guidelines to help with VR storytelling, it might be best not to think of them as rules. Storytellers should try to discover new tools to open doors into our virtual worlds, and new ways to immerse the audience into them. There are bound to be unfound and unexplored innovations and possibilities for storytelling in VR, as there are in any other medium. Technological limitations will be solved one by one, and the next generation of VR might allow for a lot more freedom in designing stories. In John Bucher's interview, Pete Billington, immersive storyteller at the Oculus Story Studio, says, that storytellers need to explore boundaries and take risks:

. . . the sort of auto-censoring of what's possible and what's not possible, what's good in VR and what's not good in VR is not necessarily helpful right now. (Billington, as cited in Bucher, 2018, 74.)

Louden says that as in other fiction, storytelling in VR is about the struggle to create something original and inspiring. However, he sees there are advantages to VR compared to other media: "... it truly transports you to other worlds, and I can't wait to see where other storytellers will take people to next." (Louden, interview, 2018.)

So maybe the best we can do is to embrace and explore the possibilities of this new medium. Like myself, many of my interviewees were inspired by VR's power to immerse the user into a fictional world and tell a story through it. They saw it as an opportunity to have an even deeper impact on the audience than other media. With that

power comes responsibility, but also an opportunity to make a difference and maybe even improve the audience's lives. Noora Heiskanen saw VR as a medium that can help the audience learn about themselves (Heiskanen, interview, 2018). It might also help us understand others better, because it lets us see the world – in a sense – through someone else's eyes, as Pete Billington speculates in Bucher's book. (Billington, as cited in Bucher, 2018, 77.)

So in a way, maybe VR storytellers can take the role of a guide for the audience on their hero's journey inside the virtual world, and steer them to return altered by the experience, bringing with them fantastical memories, but maybe also some new ideas and understanding of themselves and the actual world.

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## **Interviews**

Louden, Gregory. Lead designer at 3rd Eye Studios. Interview 6 March 2018.

Porkka, Sami. Producer and creative director at Barracuda Disaster.

Taussi, Henri. CEO and 3D artist at Barracuda Disaster.

Viisanen, Teemu. Programmer and problem solver at Barracuda Disaster.

Interview 14 March 2018.

Alasmaa, Tero. Game designer at Morrow Games. Interview 21 March 2018

Kemppainen, Jaakko. Game designer at HipFire Games. Interview 28 March 2018.

Heiskanen, Noora. Creative director at Teatime Research. Interview 28 March 2018.

## **Games, films, experiences and further reading**

3rd Eye Studios: *Downward Spiral* -series, 2017->

Oculus Story Studio: *Dear Angelica*, 2017

Gilles Jobin: *VR\_I*, 2018

Fable Studio: *Wolves in the Walls, Chapter 1*, 2018

Barracuda Disaster: *End of the Road VR*, 2017

Mindfield Games: *P.O.L.L.E.N.*, 2016

Teatime Research: *Aleppo – Helsinki*, 2017

Morrow Games: *Crowmire* demo, 2016

Thatgamecompany: *Journey*, 2012

Starbreeze Studios: *Brothers: A Tale of Two Sons*, 2013

Giant Sparrow: *What Remains of Edith Finch*, 2017

Mikko Joensuu: *Drop Me Down*. Metropolia & YLE Musiikki, 2017

Stanley G. Weinbaum: *Pygmalion's Spectacles*, Wonder Stories, 1935 -Available at:  
<http://gutenberg.net.au/ebooks06/0607251h.html>

## **Interview questions**

### **Instructions**

You can answer the questions with as many or as few words you like, and leave unanswered the ones you do not wish to answer at all.

I use the words “writing” and “storytelling” here in a broad sense. You can apply these questions to any of your work related to screenwriting and narrative design in VR (and other media).

### **Questions about story and world building**

1. In your opinion, what kind of stories fit VR better than other media? What kind of stories don't fit VR at all?
2. Does creating the world for a VR story differ from creating the world for stories in other media? How do you take into account the spatial experience of the viewer?

### **Questions about interactivity**

3. Do you find that interactivity in VR games is somehow different from interactivity in other games? How do you take that into account when writing for VR?
4. Do you use some techniques from other interactive media (e.g. role playing games, LARP, participatory theatre) in your writing? Which ones?

### **Questions about story structure and plot**

5. Do you have some tips for structuring stories for VR? Do you find use for structures used in film, cinema, games or other media when writing for VR?  
(If so, what are these structures, and how do you tweak them to better suit VR?)



6. What are the differences between writing forking storylines for VR and writing them for other games? How do you approach viewers' choices and their effect on the story in VR?

7. How do you use the possibilities of space and movement to your advantage as a storyteller in VR?

8. Have you found good ways of directing the viewer's attention in VR space that you'd be willing to share? Or do you prefer to let the viewer/gamer find their own way at their own pace in the VR space?

### **Questions about character**

9. How does writing the player character for a VR game differ from writing it for other games?

10. How do you approach writing a viewer character for a story which immerses the player/viewer so deeply within the world of the story?

11. How do you take into account the viewer's relationship to NPC's or non-viewer characters? Do you think the relationship between the player/viewer-character and other characters is more personal in VR than in other media? Does the writer need to take this into account somehow?

### **Questions about format**

12. What kind of format do you write VR in?

13. How have you dealt with writing many simultaneous events in different directions?

### **Questions about ethics**

14. How do you view your responsibility as a storyteller in VR?

Do you think it differs from the storyteller's responsibility in other media? Are there any special ethical questions to consider with VR at all?

**General questions**

15. What kind of a team works with you on the story?

16. What are the greatest challenges of VR storytelling in your opinion?

17. What interests you most in VR storytelling?